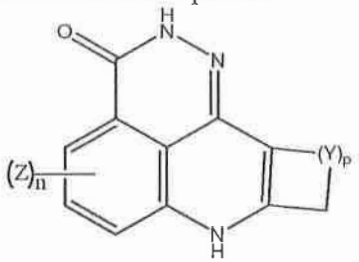
CLAIMS

WHAT IS CLAIMED IS:

1. At least one compound selected from compounds of Formula (I):



I

and pharmaceutically acceptable salts thereof,

wherein:

Y, at each occurrence, is independently selected from $-CR^1R^2-$, $-R^3C=CR^4-$, $-NR^5-$, -O-, and -S-;

p is an integer ranging from 2 to 12;

Z, at each occurrence, is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

n is an integer ranging from 0 to 3;

R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and when $(Y)_p$ comprises $-CR^1R^2-CR^1R^2-$, optionally R^1 or R^2 substituted on each of the two carbons, together with the two carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

R^3 and R^4, which may be the same or different, are each selected from hydrogen and alkyl, or R^3 and R^4, together with the carbons to which they are attached, form a 5-, 6-, 7-, or, 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is partially or fully unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

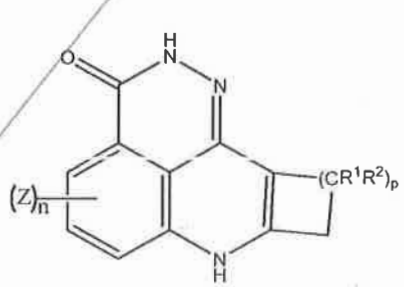
R^5, at each occurrence, is independently selected from hydrogen,, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $SO_2NR^6R^7$ and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', $-CO_2R'$, -CONR'R", -C(=NR')NR"R'", -NR'COR",-NR'CONR'R", $-NR'CO_2R"$, -SR', - SOR', $-SO_2R'$, $-NR'SO_2NR"R'"$, and $NR'SO_2R"$, , wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

2. The at least one compound of Claim 1, which is selected from compounds of Formula (II):



II

and pharmaceutically acceptable salts thereof,

wherein

p is an integer ranging from 2 to 12;

Z, at each occurrence, is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

n is an integer ranging from 0 to 3;

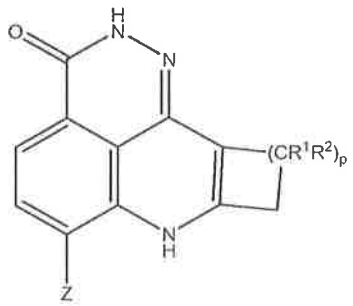
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and optionally R^1 or R^2 substituted on each of the two neighboring carbons, together with the two neighboring carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', $-CO_2R'$, -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", $-NR'CO_2R"$, -SR', - SOR', $-SO_2R'$, $-NR'SO_2NR"R'"$, and $NR'SO_2R"$, wherein R', R", and R'" are independently selected from the group consisting of H, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, hetereoaryl, and heterocyclyl.

3. The at least one compound of Claim 1, which is selected from compounds of Formula (II-1):



II-1

and pharmaceutically acceptable salts thereof,

wherein

p is an integer ranging from 2 to 12;

Z, is selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, -NO_2, -OR^6, -NR^6R^7, -NR^6COR^7, -NR^6-NR^7COR^8, -$NR^6SO_2R^7$, -$CONR^6R^7$, -$COOR^6$, and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

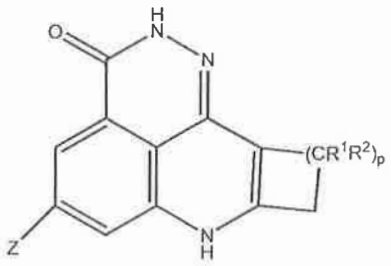
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -NR^6R^7, -OR^6, -COR^6, -CO_2R^6, -$CONR^6R^7$, -$NR^6CONR^7R^8$, -$NR^6CO_2R^7$, -$NR^6SO_2R^7$,and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and optionally R^1 or R^2 substituted on each of the two neighboring carbons, together with the two neighboring carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from -NR^{10}-, -O-, -S-, -SO- and -SO_2-;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', -CO_2R', -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", -NR'CO_2R", -SR', - SOR', -SO_2R', -NR'SO_2NR"R'", and NR'SO_2R", wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

4. The at least one compound of Claim 1, which is selected from compounds of Formula (II-2):



II-2

and pharmaceutically acceptable salts thereof,

wherein

p is an integer ranging from 2 to 12, such as from 2 to 5, further such as from 2 to 4, even further such as from 2 to 3;

Z is selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

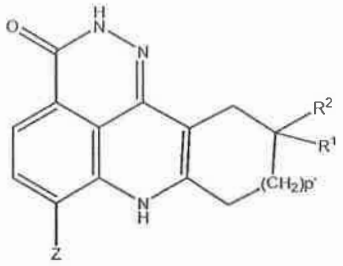
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and optionally R^1 or R^2 substituted on each of the two neighboring carbons, together with the two neighboring carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', $-CO_2R'$, -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", $-NR'CO_2R"$, -SR', - SOR', $-SO_2R'$, $-NR'SO_2NR"R'"$, and $NR'SO_2R"$, wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

5. The at least one compound of Claim 1, which is selected from compounds of Formula (II-3):



(II-3)

and pharmaceutically acceptable salts thereof,

wherein

p' is an integer ranging from 0-10;

Z is selected from the group consisting of hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, -NO_2, -OR^6, -NR^6R^7, -NR^6COR^7, -NR^6-NR^7COR^8, -$NR^6SO_2R^7$, -$CONR^6R^7$, -$COOR^6$, and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

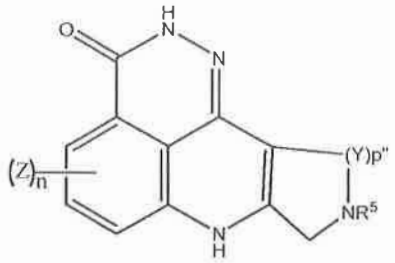
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -NR^6R^7, -OR^6, -COR^6, -CO_2R^6, -$CONR^6R^7$, -$NR^6CONR^7R^8$, -$NR^6CO_2R^7$, -$NR^6SO_2R^7$,and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', -CO_2R', -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", -NR'CO_2R", -SR', - SOR', -SO_2R', -NR'SO_2NR"R'", and NR'SO_2R", wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

6. The at least one compound of Claim 1, which is selected from compounds of Formula (III):



III

and pharmaceutically acceptable salts thereof,

wherein:

Y, at each occurrence, is independently selected from CR^1R^2-, $-R^3C=CR^4$-, $-NR^5$-, -O-, and -S-;

p" is an integer ranging from 1 to 11, such as from 1 to 4, further such as from 1 to 3, for example, p" is an integer of 1 or 2;

Z, at each occurrence, is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

n is an integer ranging from 0 to 3, such as from 0 to 2, for example, n is an integer of 0 or 1;

R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and when $(Y)_{p"}$ comprises $-CR^1R^2-CR^1R^2$-, optionally R^1 or R^2 substituted on each of the two carbons, together with the two carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}$-, -O-, -S-, -SO- and $-SO_2$-;

R^3 and R^4, which may be the same or different, are each selected from hydrogen and alkyl, or R^3 and R^4, together with the atoms to which they are attached, form a 5-, 6-, 7-, or, 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is partially or fully unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}$-, -O-, -S-, -SO-, and $-SO_2$-;

R^5 is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $SO_2NR^6R^7$ and $-SO_2R^6$, wherein each

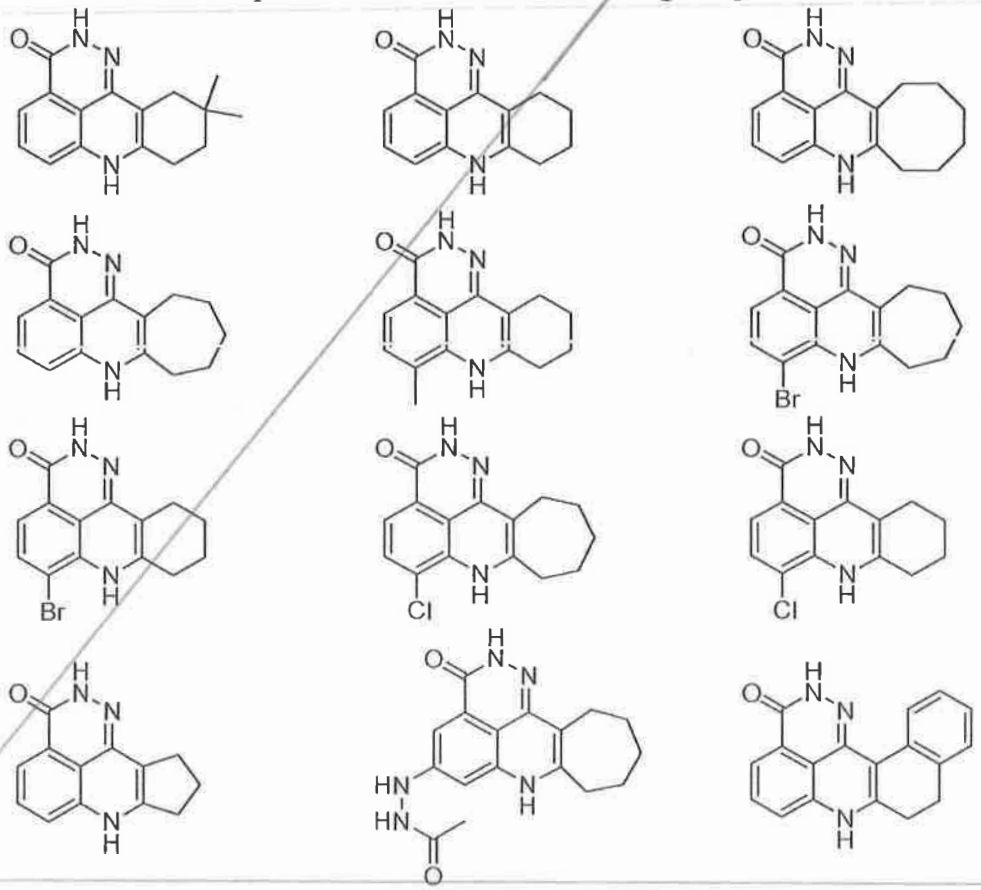
of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

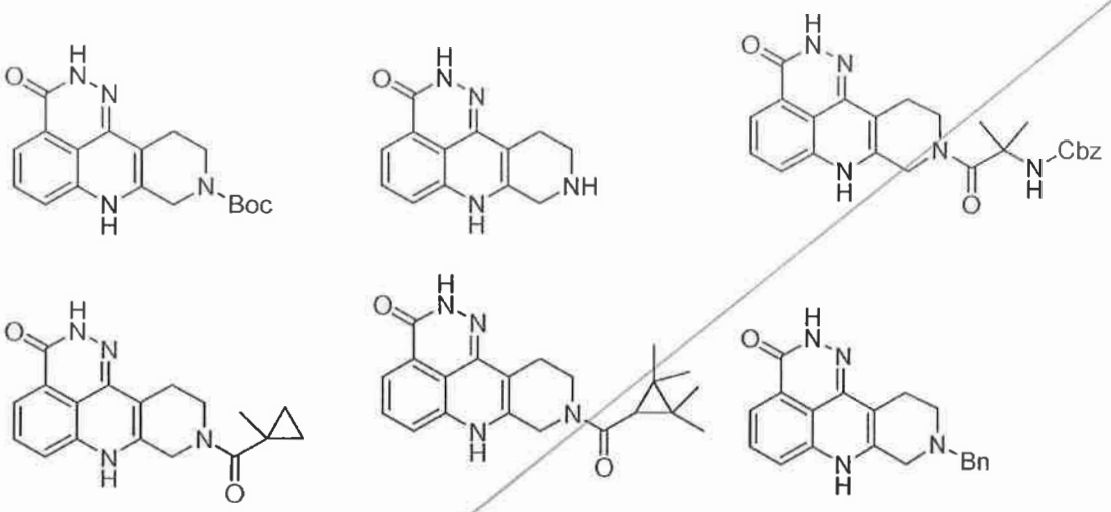
R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', -CO_2R', -CONR'R", -C(=NR')NR"R"', -NR'COR", -NR'CONR'R", -NR'CO_2R", -SR', - SOR', -SO_2R', -NR'SO_2NR"R"', and NR'SO_2R", wherein R', R", and R"' are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl and heterocyclyl.

7. At least one compound selected from the following compounds





and pharmaceutically acceptable salts thereof.

8. The at least one compound of any one of Claims 1-7, having a PARP-inhibiting activity corresponding to a IC_{50} of 1uM or less in a PARP enzyme assay.

9. A pharmaceutical composition comprising at least one pharmaceutically acceptable carrier and as an active ingredient a therapeutically effective of the at least one compound of any one of Claims 1-7.

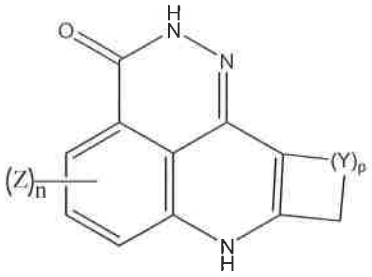
10. A method of treating cancer responsive to inhibition of PARP comprising administering to a subject in recognized need thereof at least one compound of any one of Claims 1-7 in an amount effective to inhibit said PARP.

11. Use of at least one compound of any one of Claims 1-7 in the manufacture of medicaments for the treatment of at least one disease responsive to inhibition of PARP.

CLAIMS

WHAT IS CLAIMED IS:

1. At least one compound selected from compounds of Formula (**I**):



I

and pharmaceutically acceptable salts thereof,

wherein:

Y, at each occurrence, is independently selected from $-CR^1R^2-$, $-R^3C=CR^4-$, $-NR^5-$, -O-, and -S-;

p is an integer ranging from 2 to 12;

Z, at each occurrence, is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

n is an integer ranging from 0 to 3;

R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and when $(Y)_p$ comprises $-CR^1R^2-CR^1R^2-$, optionally R^1 or R^2 substituted on each of the two carbons, together with the two carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

R^3 and R^4, which may be the same or different, are each selected from hydrogen and alkyl, or R^3 and R^4, together with the carbons to which they are attached, form a 5-, 6-, 7-, or, 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is partially or fully unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

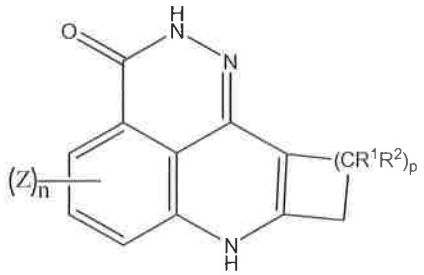
R^5, at each occurrence, is independently selected from hydrogen,, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $SO_2NR^6R^7$ and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', $-CO_2R'$, -CONR'R", -C(=NR')NR"R"', -NR'COR",-NR'CONR'R", $-NR'CO_2R"$, -SR', - SOR', $-SO_2R'$, $-NR'SO_2NR"R"'$, and $NR'SO_2R"$, , wherein R', R", and R"' are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

2. The at least one compound of Claim 1, which is selected from compounds of Formula (**II**):



II

and pharmaceutically acceptable salts thereof,

wherein

p is an integer ranging from 2 to 12;

Z, at each occurrence, is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

n is an integer ranging from 0 to 3;

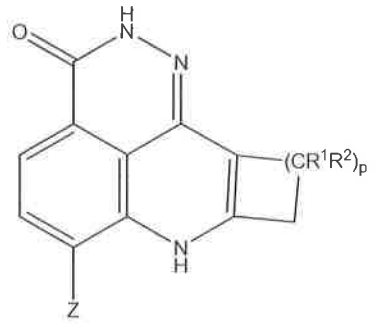
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and optionally R^1 or R^2 substituted on each of the two neighboring carbons, together with the two neighboring carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', $-CO_2R'$, -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", $-NR'CO_2R"$, -SR', - SOR', $-SO_2R'$, $-NR'SO_2NR"R'"$, and $NR'SO_2R"$, wherein R', R", and R'" are independently selected from the group consisting of H, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, hetereoaryl, and heterocyclyl.

3. The at least one compound of Claim 1, which is selected from compounds of Formula (**II-1**):



II-1

and pharmaceutically acceptable salts thereof,

wherein

p is an integer ranging from 2 to 12;

Z, is selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, -NO_2, -OR^6, -NR^6R^7, -NR^6COR^7, -NR^6-NR^7COR^8, -$NR^6SO_2R^7$, -$CONR^6R^7$, -$COOR^6$, and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

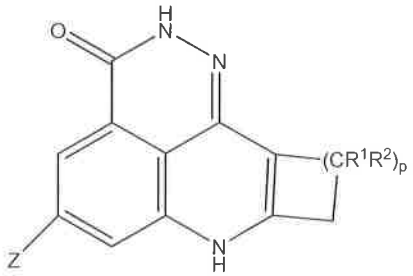
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -NR^6R^7, -OR^6, -COR^6, -CO_2R^6, -$CONR^6R^7$, -$NR^6CONR^7R^8$, -$NR^6CO_2R^7$, -$NR^6SO_2R^7$,and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and optionally R^1 or R^2 substituted on each of the two neighboring carbons, together with the two neighboring carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from -NR^{10}-, -O-, -S-, -SO- and -SO_2-;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', -CO_2R', -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", -NR'CO_2R", -SR', - SOR', -SO_2R', -NR'SO_2NR"R'", and NR'SO_2R", wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

4. The at least one compound of Claim 1, which is selected from compounds of Formula **(II-2):**



II-2

and pharmaceutically acceptable salts thereof,

wherein

p is an integer ranging from 2 to 12, such as from 2 to 5, further such as from 2 to 4, even further such as from 2 to 3;

Z is selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

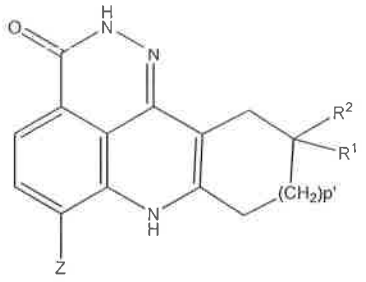
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and optionally R^1 or R^2 substituted on each of the two neighboring carbons, together with the two neighboring carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}-$, -O-, -S-, -SO- and $-SO_2-$;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', $-CO_2R'$, -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", $-NR'CO_2R"$, -SR', - SOR', $-SO_2R'$, $-NR'SO_2NR"R'"$, and $NR'SO_2R"$, wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

5. The at least one compound of Claim 1, which is selected from compounds of Formula (**II-3**):



(II-3)

and pharmaceutically acceptable salts thereof,

wherein

p' is an integer ranging from 0-10;

Z is selected from the group consisting of hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, -NO_2, -OR^6, -NR^6R^7, -NR^6COR^7, -NR^6-NR^7COR^8, -$NR^6SO_2R^7$, -$CONR^6R^7$, -$COOR^6$, and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

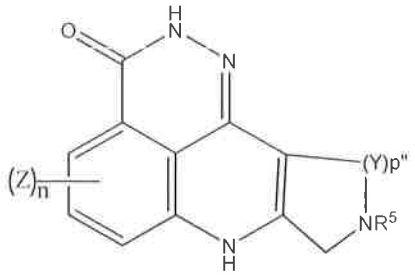
R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -NR^6R^7, -OR^6, -COR^6, -CO_2R^6, -$CONR^6R^7$, -$NR^6CONR^7R^8$, -$NR^6CO_2R^7$, -$NR^6SO_2R^7$,and -SO_2R^6, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from hydrogen, halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', -CO_2R', -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", -NR'CO_2R", -SR', - SOR', -SO_2R', -NR'SO_2NR"R'", and NR'SO_2R", wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl.

6. The at least one compound of Claim 1, which is selected from compounds of Formula (**III**):



III

and pharmaceutically acceptable salts thereof,

wherein:

Y, at each occurrence, is independently selected from CR^1R^2-, $-R^3C=CR^4$-, $-NR^5$-, -O-, and -S-;

p" is an integer ranging from 1 to 11, such as from 1 to 4, further such as from 1 to 3, for example, p" is an integer of 1 or 2;

Z, at each occurrence, is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, -CN, $-NO_2$, $-OR^6$, $-NR^6R^7$, $-NR^6COR^7$, $-NR^6-NR^7COR^8$, $-NR^6SO_2R^7$, $-CONR^6R^7$, $-COOR^6$, and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9;

n is an integer ranging from 0 to 3, such as from 0 to 2, for example, n is an integer of 0 or 1;

R^1 and R^2, which may be the same or different, are each selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-NR^6R^7$, $-OR^6$, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $-NR^6CONR^7R^8$, $-NR^6CO_2R^7$, $-NR^6SO_2R^7$,and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted with at least one substituent R^9; and when $(Y)_{p"}$ comprises $-CR^1R^2-CR^1R^2$-, optionally R^1 or R^2 substituted on each of the two carbons, together with the two carbons to which they are attached, form a 3- to 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is saturated or partially unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}$-, -O-, -S-, -SO- and $-SO_2$-;

R^3 and R^4, which may be the same or different, are each selected from hydrogen and alkyl, or R^3 and R^4, together with the atoms to which they are attached, form a 5-, 6-, 7-, or, 8-membered ring optionally substituted with at least one substituent R^9, wherein said ring is partially or fully unsaturated having 0, 1 or 2 heteroatoms independently selected from $-NR^{10}$-, -O-, -S-, -SO-, and $-SO_2$-;

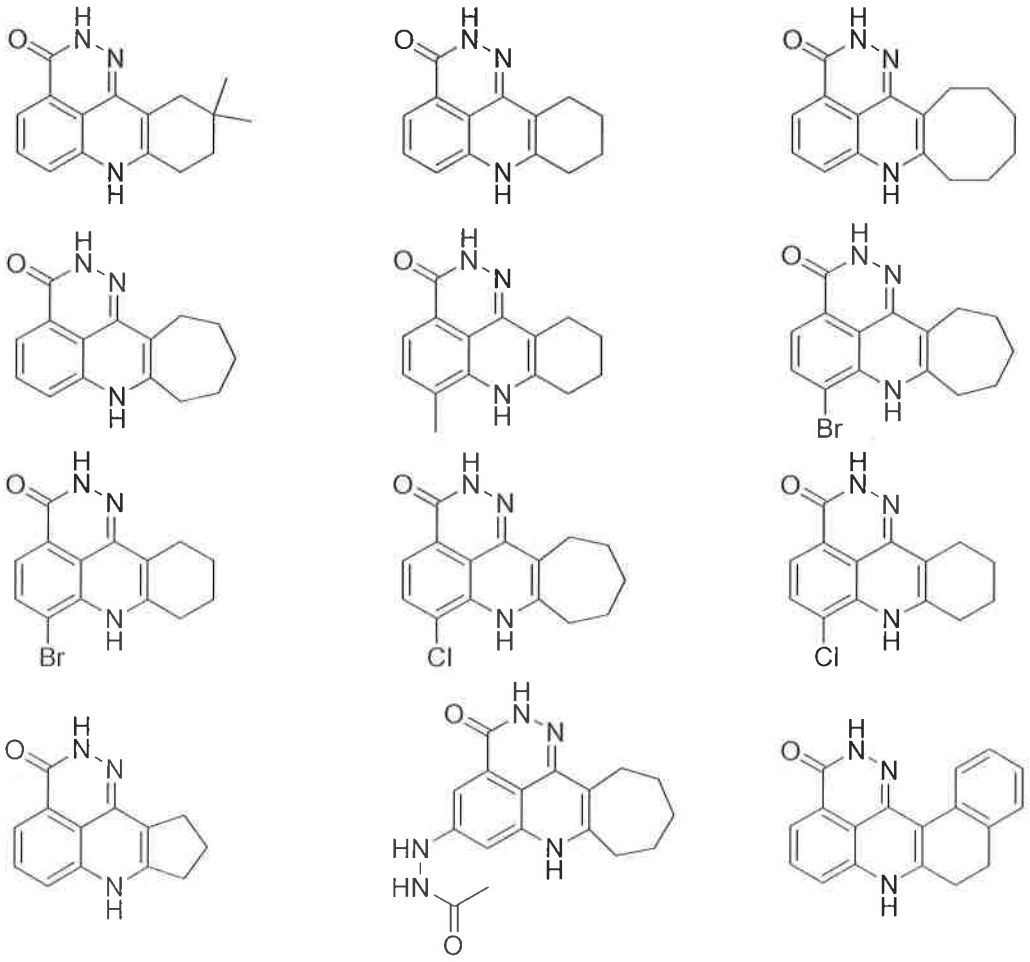
R^5 is independently selected from hydrogen, halogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocyclyl, heteroaryl, $-COR^6$, $-CO_2R^6$, $-CONR^6R^7$, $SO_2NR^6R^7$ and $-SO_2R^6$, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

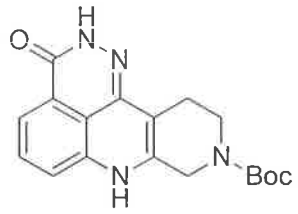
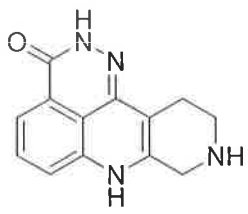
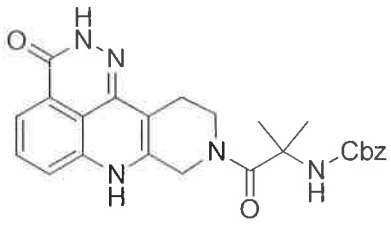
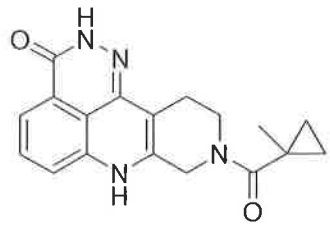
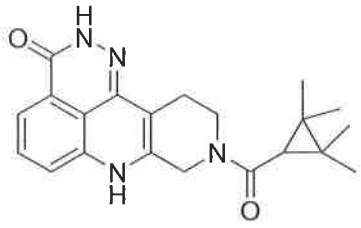
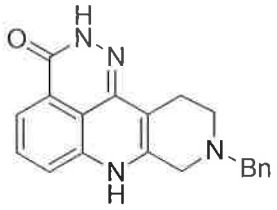
R^6, R^7 and R^8, which may be the same or different, are each selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl, wherein each of the alkyl, alkenyl, alkynyl, cycloalkyl, heteroaryl, aryl, and heterocyclyl is optionally substituted by at least one substituent R^9;

R^9, at each occurrence, is independently selected from halogen, haloalkyl, alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, heterocyclyl, alkynyl, oxo, -CN, -OR', -NR'R", -COR', $-CO_2R'$, -CONR'R", -C(=NR')NR"R'", -NR'COR", -NR'CONR'R", $-NR'CO_2R"$, -SR', - SOR', $-SO_2R'$, $-NR'SO_2NR"R'"$, and $NR'SO_2R"$, wherein R', R", and R'" are independently selected from hydrogen, haloalkyl, alkyl, arylalkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, and heteroaryl; and

R^{10} is selected from hydrogen, alkyl, cycloalkyl, aryl, heteroaryl and heterocyclyl.

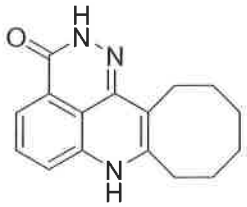
7. At least one compound selected from the following compounds



and pharmaceutically acceptable salts thereof.

8. A compound



and pharmaceutically acceptable salts thereof.

9. The at least one compound of any one of Claims 1-8, having a PARP-inhibiting activity corresponding to a IC_{50} of 1uM or less in a PARP enzyme assay.

10. A pharmaceutical composition comprising at least one pharmaceutically acceptable carrier and as an active ingredient a therapeutically effective of the at least one compound of any one of Claims 1-8.

11. A method of treating cancer responsive to inhibition of PARP comprising administering to a subject in recognized need thereof at least one compound of any one of Claims 1-8 in an amount effective to inhibit said PARP.

12. Use of at least one compound of any one of Claims 1-8 in the manufacture of medicaments for the treatment of at least one disease responsive to inhibition of PARP.